

H02B

BOARDS, SUBSTATIONS, OR SWITCHING ARRANGEMENTS FOR THE SUPPLY OR DISTRIBUTION OF ELECTRIC POWER (basic electric elements, their assembly, including the mounting in enclosures or on bases, or the mounting of covers thereon, see the subclasses for such elements, e.g. transformers [H01F](#), switches, fuses [H01H](#), line connectors [H01R](#); installation of lines, cables, or other conductors for supply or distribution [H02G](#))

Definition statement

This place covers:

- Electric enclosures such as electric boxes, circuit-breaker boxes, electric cabinets, low to high voltage switchgear enclosed in casings, cabinets or in switchyards, enclosed and non enclosed substations, for the supply and distribution of electric power.
- The installation, maintenance and association of switching devices and switchgear with each other or with other electric devices, in such enclosures, substations, switchyards.

Relationships with other classification places

When the focus is on details of switching devices, like constructional details and not so much the association with other electric devices or enclosures, these devices are classified in [H01H](#). The same applies to specific details of electrical connections, to be classified instead in [H01R](#).

Cabinets that are referred to as electric(al) cabinets but are in fact enclosing electronic, telecommunication or data devices are not classified in [H02B](#).

References

Limiting references

This place does not cover:

Basic electric elements, their assembly, including the mounting in enclosures or on bases, or the mounting of covers thereon, are to be classified in the relevant subclass of the element:

Transformers	H01F
Switches, fuses, relays	H01H
Electric connectors	H01R
Installation of lines, cables, busbars	H02G

H02B 1/00

Frameworks, boards, panels, desks, casings; Details of substations or switching arrangements

Definition statement

This place covers:

- Electromechanical aspects of enclosures (boxes, wall mounted casings, electric cabinets) housing electric equipment mostly in the low and medium voltage range and the mounting of electric equipment therein.
- Details of electric equipment insofar as it is related to its mounting in the enclosure (mounting parts).

Relationships with other classification places

Details of substations are actually classified either in [H02B 5/00](#) or [H02B 7/00](#).

References

Limiting references

This place does not cover:

Electrical centers for vehicles	B60R 16/0238
Housings and supporting racks for energy meters	G01R 11/04 , G01R 1/04
Enclosures for data-processing equipment	G06F 1/181
Batteries casings	H01M 2/1016
Distribution boxes	H02G 3/08
Telecomm cabinets	H04Q 1/00
Electronic casings, cabinets	H05K

Application-oriented references

Examples of places where the subject matter of this place is covered when specially adapted, used for a particular purpose, or incorporated in a larger system:

Protective tubings or conduits for the installation of electric cables or lines in or on buildings	H02G 3/04
Electrical casings that relate to the installation of cables in or on buildings, the so called distribution boxes, joint or junction boxes, electrical boxes for switches and sockets, their mounting on or in walls	H02G 3/08

Informative references

Attention is drawn to the following places, which may be of interest for search:

Mounting of several circuit breakers together	H01H 71/0271
Electrical connections between juxtaposed circuit breakers	H01R 9/2675 , H01H 71/082
Cabinet frame	H05K 7/183
Ventilation in electronic enclosures	H05K 7/20

Special rules of classification

Special details concerning the corner connections or the profile of a chassis of an electric cabinet may be classified in [H02B 1/01](#) or [H02B 1/30](#), but will have to take the corresponding Indexing Code ([H02B 1/014](#), [H02B 1/014](#)).

H02B 1/06

having associated enclosures, e.g. for preventing access to live parts (shutters or guards for contacts [H02B 1/14](#))

References**Limiting references**

This place does not cover:

Shutters or guards for contacts	H02B 1/14
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H02B 1/14

Shutters or guards for preventing access to contacts (shielding of isolating-contacts in withdrawable switchgear [H02B 11/24](#))

References**Limiting references**

This place does not cover:

Shielding of isolating-contacts in withdrawable switchgear	H02B 11/24
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H02B 1/16

Earthing arrangements (earthing arrangements for substations [H02B 5/01](#), for switchgear [H02B 11/28](#), [H02B 13/075](#); earth plates, pins, or other contacts [H01R 4/66](#))

References**Limiting references**

This place does not cover:

Earthing arrangements for substations	H02B 5/01
Earthing arrangements for switchgear	H02B 11/28 , H02B 13/075
Earth plates, pins, or other contacts	H01R 4/66

H02B 1/24

Circuit arrangements for boards or switchyards (devices for displaying diagrams [H02B 15/00](#); service supply [H02J 11/00](#))

References**Informative references**

Attention is drawn to the following places, which may be of interest for search:

Devices for displaying diagrams	H02B 15/00
Service supply	H02J 11/00

Special rules of classification

In groups [H02B 1/26](#) - [H02B 1/56](#), in the absence of an indication to the contrary, an invention is classified in the last appropriate place.

H02B 1/26

Casings; Parts thereof or accessories therefor (adapted for a single switch [H01H](#); enclosures for cables, lines or bus-bars [H02G](#); distribution, connection or junction boxes [H02G 3/08](#); casings in general [H05K](#))

References

Limiting references

This place does not cover:

Casings adapted for a single switch	H01H
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Informative references

Attention is drawn to the following places, which may be of interest for search:

Enclosures for cables, lines or bus-bars	H02G
Distribution, connection or junction boxes	H02G 3/08
Casings in general	H05K

H02B 1/54

Anti-seismic devices or installations (for buildings in general [E04B 1/98](#); {shock absorbers [F16F](#)})

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Anti-seismic devices or installations for buildings in general	E04B 1/98
Shock absorbers	F16F

H02B 3/00

Apparatus specially adapted for the manufacture, assembly, or maintenance of boards or switchgear

Definition statement

This place covers:

Devices used in the maintenance, replacement, retrofitting, repairing, manufacturing or assembly of boards, electric cabinets, switchgear or substations for the supply or distribution of electric power.

References

Limiting references

This place does not cover:

Apparatus for installing, maintaining electric cables or lines	H02G 1/00
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H02B 5/00

Non-enclosed substations; Substations with enclosed and non-enclosed equipment

Definition statement

This place covers:

- Association of several medium to very high voltage air or gas insulated switchgear in a switchyard, not necessarily involving a transformer.
- Switchgear (transformers, switching devices) mounted on poles.

Relationships with other classification places

- When a double busbar/line configuration is involved this is to be also classified in [H02B 1/22](#).
- Documents classified in [H02B 5/06](#) might also be classified in [H02B 13/035](#), when specific details of the switching devices are involved.
- Anti-vibration or anti-seismic installations are to be also classified in [H02B 1/54](#).

H02B 7/00

Enclosed substations, e.g. compact substations

Definition statement

This place covers:

Association of several medium to very high voltage air or gas insulated switchgear enclosed in a building (above ground level or underground) not necessarily involving a transformer.

Relationships with other classification places

Cooling details are to be also classified in [H02B 1/56](#).

References

Limiting references

This place does not cover:

Constructional details of the substation building	E04H 5/04
Details of mounting, supporting the transformer	H01F 27/06

H02B 7/06

Distribution substations, e.g. for urban network ([H02B 7/01](#) takes precedence)

References

Limiting references

This place does not cover:

Gas-insulated substations	H02B 7/01
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H02B 11/00

Switchgear having carriage withdrawable for isolation

Definition statement

This place covers:

Switchgear normally enclosed in a casing/cubicle having the interrupting unit arranged in or on a withdrawable unit/carriage mostly in the medium to high-voltage range.

Details of the withdrawal mechanism, interlocking means, grounding, shutters, electrical contacts of such switchgear.

Relationships with other classification places

Smaller low-voltage withdrawable units are usually classified in [H02B 1/36](#).

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Details of contacts	H01H 1/00
Fuses	H01H 9/10
Preventing discharge, corona rings	H01H 33/24
Vacuum switches	H01H 33/66

H02B 11/04

Isolating-contacts, e.g. mountings, shieldings (shutters or guards for isolating contacts [H02B 1/14](#), [H02B 11/24](#); switch contacts [H01H](#); line connectors in general [H01R](#))

References

Limiting references

This place does not cover:

Shutters or guards for isolating contacts	H02B 1/14 , H02B 11/24
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Informative references

Attention is drawn to the following places, which may be of interest for search:

Switch contacts	H01H
Line connectors in general	H01R

H02B 11/06

Means for duplicate bus-bar selection (layouts for duplicate bus-bar selection [H02B 1/22](#))

References**Informative references**

Attention is drawn to the following places, which may be of interest for search:

Layouts for duplicate bus-bar selection	H02B 1/22
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H02B 11/167

truck type ([H02B 11/127](#) takes precedence)

References**Limiting references**

This place does not cover:

Withdrawal mechanism	H02B 11/127
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H02B 11/173

drawer type ([H02B 11/127](#) takes precedence)

References**Limiting references**

This place does not cover:

Withdrawal mechanism	H02B 11/127
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H02B 13/00

Arrangements of switchgear in which switches are enclosed in, or structurally associated with, a casing, e.g. cubicle (in association with main transformer [H02B 5/00](#), [H02B 7/00](#); switchgear having carriage withdrawable for isolation [H02B 11/00](#))

Definition statement

This place covers:

- Medium to high-voltage switchgear enclosed in a casing that might be a functional unit divided in different compartments (busbar compartment, cable compartment, switch compartment).

- Details of gas insulated switchgear having each component (circuit-breaker, busbar, etc) separately sealed in an enclosure.

References

Limiting references

This place does not cover:

Locating faults	G01R 31/08
Lead-in/through insulators	H01B 17/26
Protective circuit arrangements having fault detecting means	H01H 1/0015

Informative references

Attention is drawn to the following places, which may be of interest for search:

Pressure relief devices	H01H33/575
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H02B 13/025

Safety arrangements, e.g. in case of excessive pressure or fire due to electrical defect (for buildings in general [E04B 1/94](#); devices for opening or closing safety wings [E05F 1/00](#); emergency protective circuit arrangements for distribution gear, e.g. bus-bar systems, or for switching devices [H02H 7/22](#))

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Safety arrangements for buildings in general	E04B 1/94
Devices for opening or closing safety wings	E05F 1/00
Emergency protective circuit arrangements for distribution gear, e.g. bus-bar systems, or for switching devices	H02H 7/22)

H02B 13/045

Details of casing, e.g. gas tightness (gas reservoirs for switches [H01H 33/56](#))

References

Informative references

Attention is drawn to the following places, which may be of interest for search:

Gas reservoirs for switches	H01H 33/56
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H02B 13/055

Features relating to the gas (selection of fluids for switches [H01H 33/22](#))

References**Informative references**

Attention is drawn to the following places, which may be of interest for search:

Selection of fluids for switches	H01H 33/22
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H02B 13/065

Means for detecting or reacting to mechanical or electrical defects (for switches [H01H 9/50](#), [H01H 33/26](#), [H01H 33/53](#))

References**Informative references**

Attention is drawn to the following places, which may be of interest for search:

Means for detecting or reacting to mechanical or electrical defects for switches	H01H 9/50 , H01H 33/26 , H01H 33/53
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H02B 15/00

Supervisory desks or panels for centralised control or display (desks in general [A47B](#))

Definition statement

This place covers:

Display/Control panels or desks for centralised control or display of switching arrangements for the supply or distribution of electric power.

References**Informative references**

Attention is drawn to the following places, which may be of interest for search:

Desks in general	A47B
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